

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. After amending the claims as set forth above, claims 1-19 are now pending in this application.

Applicant wishes to thank the Examiner for the careful consideration given to the claims.

Claims 1-4 and 9-10 have been amended to correct minor grammatical errors.

Prior art rejection

Claims 2, 4, and 16-19 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent 5,591,314 ("Morgan") and U.S. Patent 6,375,815 ("Lynn"). For at least the following reasons, this rejection is traversed.

Claim 2 recites, among other things, a spindle terminating in a flange portion; a cylindrical target having at its end a grooved inside circumferential surface; an interface ring having a circumferential outer surface adapted to engage with said grooved inside circumferential surface of said cylindrical target; a clamping ring adapted to engage at its one side with said flange portion and to engage radially at its other side with said interface ring to hold the cylindrical target to the spindle; and one or more sealing rings between said spindle and said cylindrical target. Morgan and Lynn fail to teach or suggest this combination of features.

Morgan does not teach or suggest the claimed combination of the interface ring, the clamping ring, and the one or more sealing rings. It appears from the rejection that, as far as the PTO's analysis is concerned, the spindle 20 of Morgan is considered to be the spindle of claim 2; the target 10 of Morgan is considered to be the cylindrical target of claim 2; the spindle ring 30 of Morgan is considered to be the interface ring of claim 2; and the O-ring 40 of Morgan is considered to be the clamping ring of claim 2. However, from these interpretations (which the Applicant does not concede are correct), no element in Morgan is identified as being the one or more sealing rings between the spindle and the cylindrical target. In fact, Morgan makes quite explicit that there is only a single seal (column 2, lines 5-10 and column 3, lines 26-35 of Morgan) and the O-ring 40 of Morgan is this single seal (column 5, lines 47- 64 of Morgan). If the O-ring 40 of Morgan is considered to be the

clamping ring of claim 2, there is no structure that can be considered to be the one or more sealing rings of claim 2.

Also, even if the O-ring 40 of Moran is considered to be the one or more sealing rings of claim 2, Morgan does not teach or suggest the combination of the clamping ring and the interface ring of claim 2 because the spindle ring 30 of Morgan cannot be considered to be both the clamping ring and the interface ring of claim 2. If the spindle ring 30 of Morgan is considered to be one of the clamping ring or the interface ring of claim 2, then at least the other of the clamping ring or the interface ring would not be disclosed by Morgan. The below Table provides a summary of which element(s) would be missing from Morgan if the following interpretations were applied: (1) the PTO's interpretation of Morgan; (2) the first alternative interpretation of the O-ring 40 of Morgan being the one or more sealing rings of claim 2 and the spindle ring 30 of Morgan being the clamping ring of claim 2; and (3) the second interpretation of the O-ring 40 of Morgan being the one or more sealing rings of claim 2 and the spindle ring 30 of Morgan being the interface ring of claim 2.

Element of claim 2	PTO's interpretation of Morgan	First alternative interpretation	Second alternative interpretation
a spindle	spindle 20	spindle 20	spindle 20
a cylindrical target	cylindrical target 10	cylindrical target 10	cylindrical target 10
an interface ring	spindle ring 30	<u>Missing</u>	spindle ring 30
a clamping ring	O-ring 40	spindle ring 30	<u>Missing</u>
One or more sealing rings	<u>Missing</u>	O-ring 40	O-ring 40

Clearly one of the elements of claim 2 is missing from Morgan, regardless of whichever interpretation is adopted. It is noted, however, that one of ordinary skill in the art would, at best, consider the first alternative interpretation to be the most applicable. First, the O-ring 40 cannot be considered to be clamping ring of claim 2 because the O-ring 40 of Morgan is not adapted to engage at its one side with said flange portion and to engage radially at its other side with said interface ring to hold the cylindrical target to the spindle. The O-

ring 40 of Morgan merely seals, it does not hold the target 10 to the spindle 20 of Morgan. The O-ring 40 of Morgan has the function of providing a gas-barrier between the coolant in the target and the low-pressure vessel in which the target operates and is made of a resilient material. Hence, the O-ring 40 of Morgan is certainly not strong enough to perform the function of the clamping ring of claim 2.

Second, the spindle ring 30 of Morgan cannot be considered to be the interface ring of claim 2 because it does not have a circumferential outer surface adapted to engage with a grooved inside circumferential surface of the cylindrical target 10 of Morgan. Also, as the spindle ring 30 of Morgan is used to hold the target against the spindle, the spindle ring 30 of Morgan, at best, would be considered closest to the clamping ring of claim 2.

In view of the above, it is respectfully submitted that one of ordinary skill in the art would consider Morgan to fail to teach the interface ring of claim 2. At the very least, Morgan fails to teach or suggest the claimed combination of the interface ring, the clamping ring, and the one or more sealing rings of claim 2.

In addition to Morgan not teaching the claimed combination of the interface ring, the clamping ring, and the one or more sealing rings, Morgan does not teach a cylindrical target having at its end a grooved inside circumferential surface which engages with a circumferential outer surface of an interface ring, as correctly indicated on Page 3 of the Office Action.

Lynn does not cure the deficiencies of Morgan. First, Lynn does not teach or suggest the claimed combination of the interface ring, the clamping ring, and the one or more sealing rings. For instance, neither the retainer ring 206 nor the clamping collar 207A/207B has a circumferential outer surface adapted to engage with said grooved inside circumferential surface of target 200. Therefore, neither the retainer ring 206 nor the clamping collar 207A/207B can be considered to be the interface ring of claim 2.

Furthermore, Lynn does not teach or suggest a cylindrical target having at its end a grooved inside circumferential surface. The target 200 of Lynn is not provided with grooves inside that mate with the grooves of the retainer ring 206 of Lynn. On the contrary, the target 200 of Lynn is provided with an outside circumferential shoulder 204 on which the split clamping ring 207 A/B grips when tightened by the retainer ring 206. The PTO asserts that the retainer ring 206 of Lynn corresponds to the interface ring of claim 2. (Page 3 of the

Office Action.) However, the retainer ring 206 of Lynn does not have a circumferential outer surface adapted to engage with a grooved inside circumferential surface of the target 200. Indeed, as previously mentioned, the target 200 of Lynn does not have a grooved inside circumferential surface and the retainer ring is completely outside to the target 200.

In view of the above, even if the teachings of Morgan and Lynn were combined (a point that Applicant does not concede), the combination does not teach or suggest an interface ring having a circumferential outer surface adapted to engage with a grooved inside circumferential surface of a cylindrical target or a cylindrical target having at its end a grooved inside circumferential surface which engages with a circumferential outer surface of an interface ring. Because Morgan and Lynn do not teach or suggest these features, claim 2 is allowable.

Claims 4 and 16-19 depend from and contain all the features of claim 2, and are allowable for the same reasons as claim 2, without regard to the further patentable features contained therein.

For at least these reasons, favorable reconsideration of the rejection is respectfully requested.

Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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